



SR 18 – 180th to Maple Valley



From this...



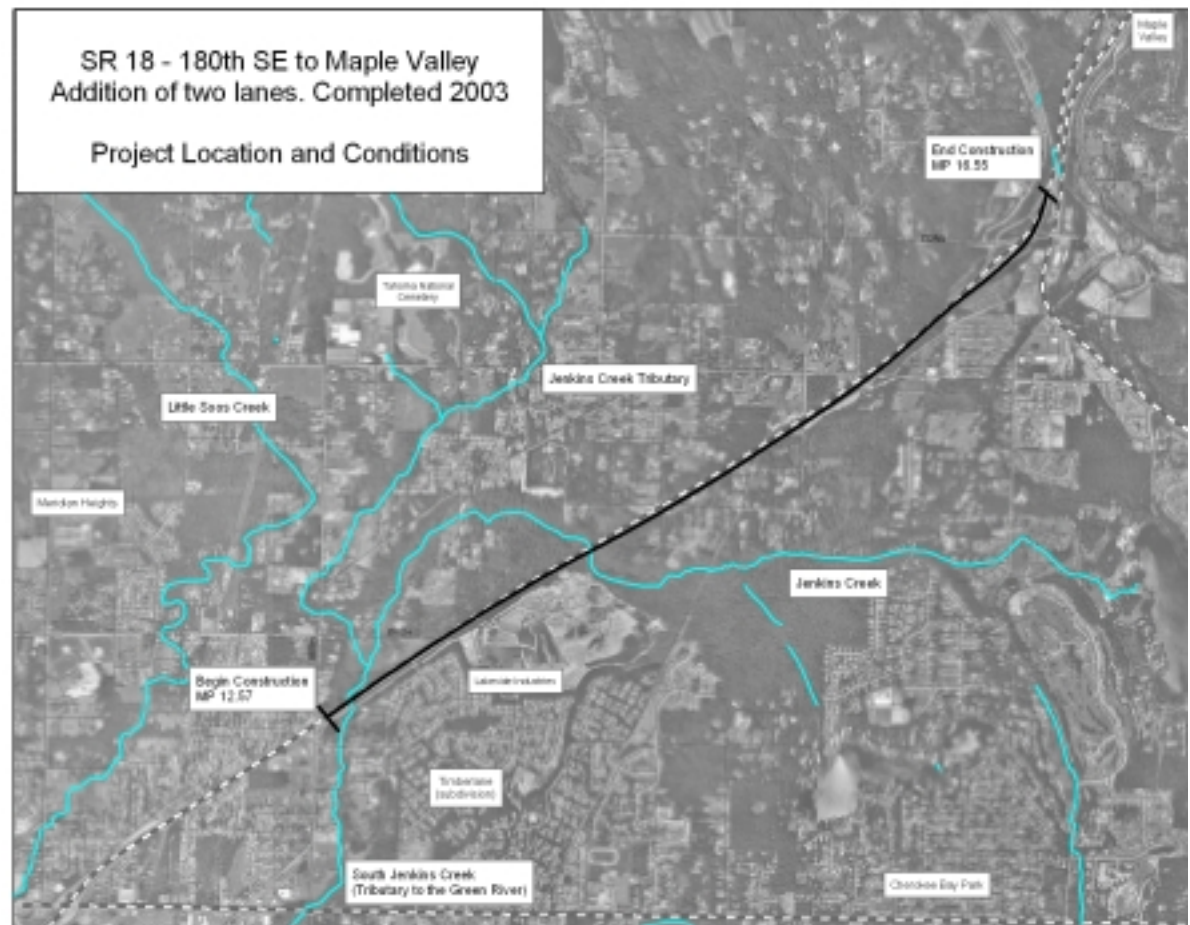
To this...

This project, a portion of a larger project to widen SR 18 from Auburn to North Bend, is a 2.7-mile stretch of highway located between Covington and Maple Valley. Traffic volumes are on the order of 25,000 vehicles each day.

The project was designed to be built partially within existing WSDOT right of way and partially on land that required new right of way acquisition.

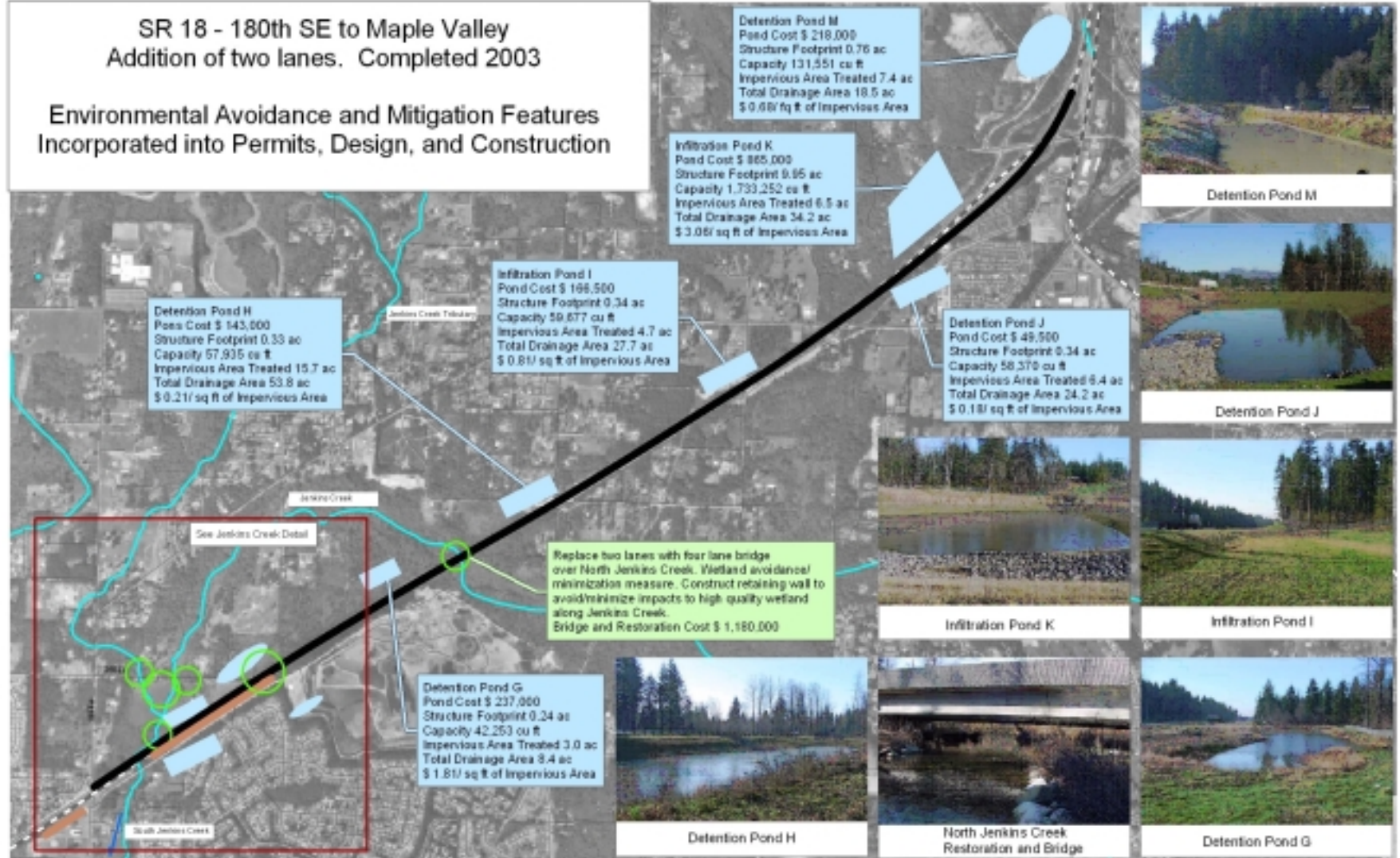
Planning and design work on the project commenced in 1985. The project was advertised for bid in December 2000 and was opened to traffic in October 2002.

The total cost to complete this project, including planning, design, right of way, and construction, was \$37,670,000.



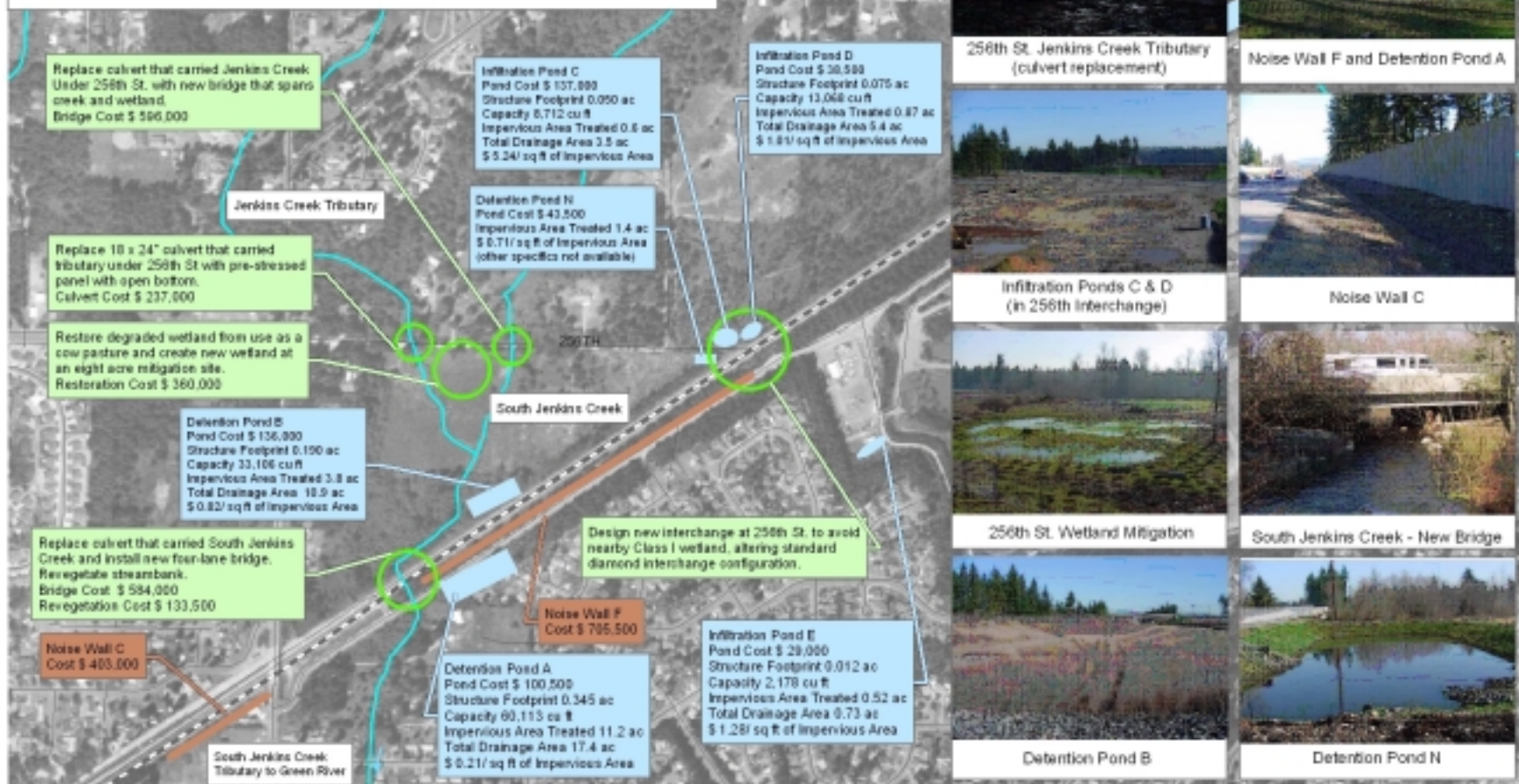
SR 18 - 180th SE to Maple Valley
Addition of two lanes. Completed 2003

Environmental Avoidance and Mitigation Features
Incorporated into Permits, Design, and Construction



SR18 - 180th SE to Maple Valley
Addition of two lanes. Completed 2003

Jenkins Creek Area Detail - 180th SE to 256th St. SE



SR 18 – 180th to Maple Valley

Traffic Noise Effects on Neighborhoods



Traffic Noise Affecting Nearby Residences

Modeling performed as part of the environmental review revealed that noise levels in residential neighborhoods near the project, in the vicinity of 180th, would exceed the threshold that is used to determine noise mitigation for this area. A feasibility (will it work?) and reasonableness (how much can be spent per household?) review indicated that construction of noise walls to buffer noise impacts to nearby residences was required in order to fulfill FHWA requirements under WSDOT guidelines.

It was possible to build these walls without acquiring more right of way. The all-in cost of the two noise walls totaled approximately \$1,420,000, or 4% of the project. There are 29,520 square feet of noise wall, for a cost of \$48 per square foot.

SR 18 – 180th to Maple Valley

Stormwater Infiltration and Detention



Excessive runoff from impervious roadway surfaces can create problems for streams, water bodies, and wetlands. To slow down runoff and facilitate infiltration, six detention ponds and five infiltration ponds were built for this project.

About 40% of the right of way takings were required for the stormwater facilities, for a right of way cost of \$1,290,000.

This project treated stormwater runoff for 62 acres of impervious surface, for an all-in cost (including right of way) of \$2,225,000, or \$1.33 per square foot of impervious area.

SR 18 – 180th to Maple Valley

Mitigation for Wetlands



This project was designed to avoid and minimize impacts to wetlands where natural habitat is protected and where national environmental policy requires replacement for any wetland loss or damage. The project ultimately eliminated 0.86 wetland acres. A new 8-acre wetland was created to mitigate for the acreage the project eliminated. The cost of this new wetland was approximately \$610,000.

Previously, a 50-inch box culvert carried Jenkins Creek - South under two lanes of SR18 near the 180th Street undercrossing. The culvert was replaced with a new two-lane bridge over the creek. The total cost of the new bridge was about \$730,000. This portion of the project also required stream revegetation, which had an all-in cost of \$140,000.

SR 18 – 180th to Maple Valley

Bridges for Culvert Retrofit/Stream Mitigation



Two new two-lane bridges were built over Jenkins Creek - North to replace a 60-inch culvert. The total cost for these bridges and walls, used to mitigate impacts to a high quality wetland on Jenkins Creek, was \$1,500,000.

Finally, 256th Street SE had to be widened to carry traffic to and from the new interchange. The US Department of Fish and Wildlife required WSDOT to replace two culverts on 256th Street (a county road) and to restore a nearby degraded wetland. The all-in cost of this work was \$950,000.

SR 18 – 180th to Maple Valley Cost Summary

Phase Costs	
EIS Development	\$0.23M
Preliminary Engineering Design	\$5.50M
Right of Way	\$3.60M
Construction	\$28.34M
Total Project Cost	\$37.67M

4%



Traffic noise affecting nearby residences \$1,420,000

6%



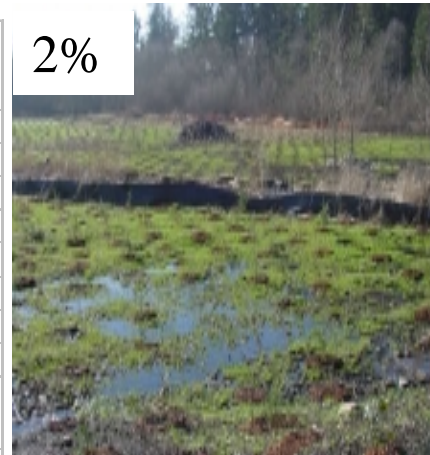
Stormwater runoff \$2,250,000

Mitigation Elements	Construction Cost ⁽¹⁾	All-in Mitigation Cost ^(*)	% of Total Project Cost
Noise Walls	\$1.11M	\$1.42M	4%
Stormwater	\$0.87M	\$2.25M	6%
Wetland	\$0.36M	\$0.61M	2%
Bridges/stream mitigation	\$2.60M	\$3.33M	9%
Subtotal of mitigation elements	\$4.40M	\$7.84M	21%
All other items	\$23.40M	\$29.83M	79%
Total	\$28.34M	\$37.67M	

(1) Construction cost includes mobilization, sales tax, and construction engineering.

(*) All-in cost includes allocation of EIS development, preliminary engineering, and right of way added to construction cost.

2%



Impact on nearby wetlands \$610,000

9%



Bridges for culvert retrofit/stream mitigation \$3,330,000